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NOTES ON THE BIRDS OF THE CALOOSAHATCHIE REGION OF FLORIDA.

BY W. E. D. SCOTT.

On the 21st of November, 1891, the writer began to make a series of observations on the bird fauna of the region which is in the vicinity of the Caloosahatchie River, Florida, and this work was continued until April 26, the whole period extending over some five months. The collections made were obtained on both sides of the river and from ten to twenty miles in either direction. In an east and west course work was done from Punta Rassa to and past Lake Flirt, or nearly half way across the peninsula. The material obtained aggregated about twelve hundred birds, so that a fair representation of the forms was acquired, in good series.

The central point, selected as a base to work from, was the town of Fort Myers in Lee County, which is distant from the Gulf some twenty miles, and from Lake Flirt about forty-five miles. The river, which formed the line worked over from Punta Rassa to Lake Flirt, is for its first twenty or twenty-five miles really an arm of the Gulf, being salt for a great part of the year and always subject to tide influence, though the rise and fall is inconsiderable. For this twenty-five miles it is a broad stream, rarely less than one and often more than two miles in width, and in the channel it ranges from five to fifteen feet in depth. At Punta Rassa and for the distance just indicated, from that place going up the river, there is more or less mangrove along the immediate edge of the water.

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These mangrove swamps, though conspicuous from the river, do not extend back for more than a very short distance, and are not of sufficient area anywhere to afford breeding grounds for aquatic birds. But at most points along this part of the stream the pine forests come down close to the water; there is some salt marsh, especially in the vicinity of Punta Rassa, and at points a fringe of cabbage palmettos or mangroves separates the pine woods from the absolute edge of the water. All through these pine forests are 'bay heads' of greater or less extent, the largest covering but a few acres, and cypress swamps, sometimes small, and again extending for many miles in length, though only a few hundred yards wide, defining generally ponds, or chains of ponds running into one another, as the case may be. These two variations are the only breaks to the monotony of the low, flat, pine forests of this region, and may be looked upon, from an ornithological standpoint, as islands, whose inhabitants make excursions into the sea—the pine forests—which surrounds them, but who are really in the main dwellers in the two kinds of localities referred to briefly above.

The land for the whole river region visited, is highest immediately at the river, or just back from it, and becomes low and very flat a mile or more away from the stream. This applies to the stream nearly as far up as Fort Thompson, where different conditions exist which will be described later.

Twenty-five miles above Punta Rassa, the stream begins to grow narrower, and in two or three miles more it is rarely over a hundred yards wide, is influenced but little by the tide, and its water is always fresh, and there is a very appreciable and constant current toward the Gulf, gradually growing swifter as Lake Flirt is approached.

The pine woods no longer come out to the bank of the river, but a kind of hammock growth is constant along its shores, and the most conspicuous growth in these hammocks, which increase in area as the river is ascended, is the cabbage palmetto, though the other trees generally found in the hammocks of Florida are present in varying proportions, the one exception being the magnolia, *M. grandiflora*, which is noticeably absent from the entire 'Caloosa Region.'

Leaving the details of this upper river country to be described from time to time in the following pages, as becomes essential in dealing with special forms of bird life, I propose to give, first, a list of all the species that have been recorded from this area, and second, some account of such forms as are of particular interest.

In the following list the resident breeding species are indicated by a star; migrant species that breed by a star and the letter M; regular migrants by the letter M; these latter do not remain to winter or summer, being only of passage in spring and fall. The letter W indicates species that are migrants, but of which enough representatives remain during the winter to allow the species to be regarded as resident and not casual at that season. The letter R added to the foregoing indicates rare species, and the letter A those that are accidental.

- 1. Colymbus auritus, W.
- 2. Podilymbus podiceps, W * R.
- 3. Urinator imber, W.
- 4. Urinator lumme, W.
- 5. Stercorarius parasiticus, W R.
- 6. Larus argentatus smithsonianus, W.
- 7. Larus delawarensis, W.
- 8. Larus atricilla. *
- 9. Larus philadelphia, W.
- 10. Gelochelidon nilotica, M.
- 11. Sterna teschegrava, M R.
- 12. Sterna maxima. *
- 13. Sterna sandvicensis acuflavida,
 * M.
- 14. Sterna forsteri, W.
- 15. Sterna hirundo, M.
- 16. Sterna dougalli, M.
- 17. Sterna antillarum, * M.
- 18. Sterna fuliginosa, MR.
- 19. Hydrochelidon nigra surinamensis, M.
- 20. Anous stolidus, A.
- 21. Rvnchops nigra. *
- 22. Anhinga anhinga. *
- 23. Phalacrocorax dilophus floridanus. *
- 24. Pelecanus erythrorhynchus, W.
- 25. Pelecanus fuscus. *
- 26. Fregata aquila. *
- 27. Merganser serrator, W.

- 28. Lophodytes cucullatus. *
- 29. Anas boschas, W.
- 30. Anas fulvigula. *
- 31. Anas americana, W.
- 32. Anas carolinensis, W.
- 33. Anas discors, W.
- 34. Spatula clypeata, W.
- 35. Dafila acuta, W. 36. Aix sponsa. *
- 37. Aythya affinis, W.
- 38. Aythya collaris, W.
- 39. Charitonetta albeola, W R.
- 40. Erismatura rubida, W R.
- 41. Chen hyperborea nivalis, WR.
- 42. Phænicopterus ruber, M R
- 43. Ajaja ajaja. *
- 44. Guara alba. *
- 45. Plegadis autumnalis, W.
- 46. Tantalus loculator. *
- 47. Botaurus lentiginosus, W
- 48. Botaurus exilis. *
- 49. Botaurus neoxenus, * R.
- 50. Ardea occidentalis, M R.
- 51. Ardea wuerdemanii, M R.
- 52. Ardea wardi. *
- 53. Ardea egretta. *
- 54. Ardea candidissima. *
- 55. Ardea rufescens, * R.
- 56. Ardea tricolor ruficollis. *
- 57. Ardea cœrulea. *
- 58. Ardea virescens, *

- 59. Nycticorax nycticorax nævius. *
- 60. Nycticorax violaceus. *
- 61. Grus mexicana. *
- 62. Aramus giganteus. *
- 63. Rallus elegans. *
- 64. Rallus crepitans, W R.
- 65. Rallus scottii, * R.
- 66. Rallus virginianus, W R.
- 67. Porzana carolina, W.
- 68. Porzana jamaicensis, M R.
- 69. Ionornis martinica.
- 70. Gallinula galeata. *
- 71. Fulica americana, W.
- 72. Himantopus mexicanus, * R.
- 73. Philohela minor, W R.
- 74. Gallinago delicata, W.
- 75. Macrorhamphus griseus, W.
- 76. Macrorhamphus scolopaceus, W R.
- 77. Micropalama himantopus, M R.
- 78. Tringa canutus, M.
- 79. Tringa maritima, A.
- So. Tringa maculata, M.
- St. Tringa fuscicollis, M.
- 82. Tringa minutilla, W.
- 83. Tringa alpina pacifica, W.
- S4. Ereunetes pusillus, W.
- 85. Ereunetes occidentalis, W.
- 86. Calidris arenaria, W.
- 87. Limosa fedoa, W.
- 88. Totanus melanoleucus, W.
- So. Totanus flavipes, W R.
- 90. Totanus solitarius, M.
- 91. Symphemia semipalmata. *
- 92. Symphemia semipalmata inornata, W R.
- 93. Bartramia longicauda, M.
- 94. Actitis macularia, M.
- 95. Numenius longirostris, * R.
- 96. Numenius hudsonicus, M.
- 97. Numenius borealis, M.
- 98. Charadrius squatarola, W.
- 99. Charadrius dominicus, W.
- 100. Ægialitis vocifera, W.
- 101. Ægialitis semipalmata, W.

- 102. Ægialitis meloda, W.
- 103. Ægialitis wilsonia, * M.
- 104. Arenaria interpres, W.
- 105. Hæmatopus palliatus, * R.
- 106. Colinus virginianus floridanus. *
- 107. Meleagris gallopavo osceola. *
- 108. Columba leucocephala, A.
- 109. Zenaidura macroura. *
- 110. Columbigallina passerina. *
- 111. Cathartes aura. *
- 112. Catharista atrata. *
- 113. Elanoides forficatus, * M.
- 114. Elanus leucurus, * R.
- 115. Ictinia mississippiensis, W.
- 116. Rostrhamus sociabilis. *
- 117. Circus hudsonius, W.
- 118. Accipiter velox, W.
- 119. Accipiter cooperi, W.
- 120. Buteo borealis, * R.
- 121. Buteo lineatus alleni. *
- 122. Buteo latissimus, M.
- 123. Buteo brachyurus, * R.
- 124. Haliæetus leucocephalus. *
- 125. Falco peregrinus anatum, W.
- 126. Falco columbarius, W.
- 127. Falco sparverius. *
- 128. Polyborus cheriway. *
- 129. Pandion haliaëtus carolinensis. *
- 130. Strix pratincola, * R.
- 131. Syrnium nebulosum alleni. *
- 132. Megascops asio floridanus. *
- 133. Bubo virginianus. *
- 134. Speotyto cunicularia floridana. *
- 135. Conurus carolinensis, MR.
- 136. Coccyzus minor, * M R.
- 137. Coccyzus americanus, * M.
- 138. Coccyzus erythrophthalmus, MR.
- 139. Ceryle alcyon. *
- 140. Campephilus principalis. *
- 141. Dryobates villosus audubonii, *
- 142. Dryobates pubescens. *
- 143. Dryobates borealis, *

- 144. Sphyropicus varius, W.
- 145. Ceophlœus pileatus. *
- 146. Melanerpes erythrocephalus,
 * R.
- 147. Melanerpes carolinus. *
- 148. Colaptes auratus. *
- 149. Antrostomus carolinensis, * M.
- 150. Antrostomus vociferus, W R.
- 151. Chordeiles virginianus chapmani, * M.
- 152. Chætura pelagica, * M.
- 153. Trochilus colubris, M.
- 154. Tyrannus tyrannus, * M.
- 155. Tyrannus dominicensis, * M.
- 156. Myiarchus crinitus. *
- 157. Sayornis phæbe, W.
- 158. Contopus virens, M.
- 159. Empidonax acadicus, M R.
- 160. Cyanocitta cristata florincola. *
- 161. Aphelocoma floridana. *
- 162. Corvus americanus floridanus. *
- 163. Corvus ossifragus. *
- 164. Dolichonyx oryzivorus, M.
- 165. Molothrus ater, W R.
- 166. Agelaius phœniceus bryanti. *
- 167. Sturnella magna mexicana. *
- 168. Icterus spurius, M.
- 169. Icterus galbula, MR.
- 170. Quiscalus quiscula aglæus. *
- 171. Quiscalus major, *
- 172. Spinus tristis, W.
- 173. Poocætes gramineus, W.
- 174. Ammodramus sandwichensis savanna, W.
- 175. Ammodramus savannarum passerinus, * M.
- 176. Ammodramus henslowii, W.
- 177. Chondestes grammacus, W R.
- 178. Spizella socialis, W.
- 179. Spizella pusilla, W.
- 180. Peucæa æstivalis. *
- 181. Peucæa æstivalis bachmani, W.
- 182. Melospiza georgiana, W.
- 183. Passerella iliaca, W R.
- 184. Pip. erythrophthalmus alleni.*

- 185. Cardinalis cardinalis. *
- 186. Habia ludoviciana, M.
- 187. Guiraca cærulea, * M.
- 188. Passerina cyanea, M.
- 189. Passerina ciris, M.
- 190. Piranga erythromelas, M
- 191. Piranga rubra, * M.
- 192. Progne subis, M.
- 193. Progne cryptoleuca, * M.
- 194. Chelidon erythrogaster, W.
- 195. Tachycineta bicolor, W.
- 196. Clivicola riparia, M.
- 197. Stelgidopteryx serripennis. M
- 198. Ampelis cedrorum, * M.
- 199. Lanius ludovicianus. *
- 200. Vireo altiloquus barbatulus, * M.
- 201. Vireo olivaceus, * M.
- 202. Vireo gilvus, M.
- 203. Vireo flavifrons, M.
- 204. Vireo solitarius, W.
- 205. Vireo solitarius alticola, W.
- 206. Vireo noveboracensis, M.
- 207. Vireo noveboracensis maynardi. *
- 208. Mniotilta varia, W.
- 209. Protonotaria citrea, * M.
- 210. Helinaia swainsonii, M R.
- 211. Helmitherus vermivorus, M.
- 212. Helminthophila bachmani, M
- 213. Helminthophila pinus, M.
- 214. Helminthophila chrysoptera, MR.
- 215. Helminthophila celata, W.
- 216. Helminthophila peregrina, M.
- 217. Compsothlypis americana. *
- 218. Dendroica tigrina, M.
- 219. Dendroica æstiva, * M.
- 220. Dendroica cærulescens, M.
- 221. Dendroica coronata, W.
- 222. Dendroica maculosa, M.
- 223. Dendroica cærulea, MR.
- 224. Dendroica striata, M.
- 225. Dendroica blackburniæ, M.
- 226. Dendroica dominica. *
- 227. Dendroica virens, M R.
- 228. Dendroica vigorsii. *

229. Dendroica palmarum, W.

230. Dendroica palmarum hypochrysea, W R.

231. Dendroica discolor. *

232. Seiurus aurocapillus, M.

233. Seiurus noveboracensis, M.

234. Seiurus motacilla, M.

235. Geothlypis trichas, M.

236. Geothlypis trichas ignota. *

237. Sylvania mitrata, M.

238. Setophaga ruticilla, W.

239. Anthus pensilvanicus, M.

240. Mimus polyglottos. *

241. Galeoscoptes carolinensis, W.

242. Harporhynchus rufus, W.

243. Thryothorus ludovicianus miamensis.*

244. Troglodytes aëdon, W.

245. Cistothorus stellaris, W.

246. Cistothorus palustris, W R. 247. Cistothorus marianæ, W.

248. Sitta pusilla.*

249. Parus bicolor.*

250. Parus carolinensis.*

251. Regulus calendula, W.

252. Polioptila cærulea.*

253. Turdus mustelinus, M.

254. Turdus fuscescens, M.

255. Turdus aliciæ, M.

256. Turdus ustulatus swainsonii,

257. Turdus aonalaschkæ pallasii,

258. Merula migratoria, W.

259. Sialia sialis.*

From the list presented in the foregoing pages a brief discussion of certain species will conclude the present synopsis of the bird fauna of the region under consideration.

Podilymbus podiceps.—A few representatives of this species remain to breed in this portion of Florida.

Stercorarius parasiticus.—It seems probable that this will be found to be of regular occurrence on the Gulf coast of this region. A specimen in my collection (No. 3213) was taken at Marco in the winter of 1884, by

Anas fulvigula. -- A common resident at Lake Flirt where great num bers may be seen throughout the year. They begin to breed late in

Botaurus neoxenus.—Of the seven specimens of this species so far ex isting in collections, the original type and five of the others were all secured in this part of Florida. It is now known to occur regularly, though probably in small numbers, in Lake Flirt and in the great tracts of sawgrass that surround Lake Okeechobee.

I was taken by Capt. Menge to the points in Lake Flirt where that gentleman had secured specimens, and was shown the exact spots where two at least were shot. There is nothing apparently in the environment that does not exist in many parts of southern Florida, and it seems probable that careful search through the great swamps of sawgrass and maiden-cane, will result in extending very considerably the range of this little-known species. The points where individuals have been secured by Capt. Menge, and others observed, indicate that the birds occur over an area that extends at least fifty miles in one direction by forty in another, and as this area includes almost impassable swamps of the character above indicated, and, as the birds are not at all conspicuous, having much the habits of the smaller Rails, many have doubtless escaped the observation of the few collectors who have worked in this field.

Himantopus mexicanus.—Breeds in this region. Eggs have been taken on Sanibel Island and on the Kissimmee River near where it enters Lake Okeechobee.

Meleagris gallopavo osceola.—This is still a very abundant bird in this part of Florida, though said to be diminishing in numbers every year and to be not nearly so plentiful as it was ten or fifteen years ago. During my stay at Fort Myers from November till March, the open season, the birds were constantly offered for sale in the markets, the price being on the average ten cents a pound for dressed birds. A hen Turkey could generally be bought for from seventy-five cents to a dollar, and a gobbler for from a dollar to a dollar and a half. Only a few years back the regular price paid to the hunters was twenty-five cents each. This I was told by many reliable people who had lived there a dozen years or more. I obtained without difficulty a series of more than thirty, and could readily havesecured five times as many. This series bears out fully the characistics on which the subspecies was based. All of the birds that passed through my hands whether for the collection or the table, were carefully weighed; full-grown gobblers exceeded twelve pounds in weight for the smallest individual, while the largest weighed a little over twenty-two The hens weighed from four and three-quarters to a little over nine pounds. These results were obtained from weighing rather more than seventy individuals.

These birds breed at this point from the first week in April to May first, but mating begins shortly after March first, and gobblers begin to gobble late in February.

Capt. Menge, who has had great experience with these birds, told me that he had killed gobblers on more than one occasion, which had two beards or tassels on their breasts instead of one as is usually the case. Hen birds sometimes possess small appendages of this sort.

It would seem that these birds, living as they do at this point in cypress swamps and 'bay heads,' have a natural protection that will not allow of their absolute extermination, but unless the exceedingly good laws passed by the last legislature of the State are carefully enforced, the Wild Turkey, still very abundant in this region, is doomed to become in a few years as rare as it has already become in the northern part of Florida.

Polyborus cheriway.—A common species, especially on the upper part of the river. Occasionally observed about Fort Myers where it resorted with Cathartes aura and Catharista atrata to the slaughter houses and pens. On the large prairie to the north of the river, and not far from Fort Thompson, these birds were quite common, and in early April I found three nests in one day's collecting, though not devoting particular attention to such search. Two of the nests were in cabbage palmettos, twenty-five to forty feet from the ground, and were very like in structure to

the nest of the Common Crow (Corvus americanus), but perhaps a little larger. The third nest was in a pine tree on the edge of one of the wooded 'islands' of the prairie. It was similar in structure to the two already spoken of and was about forty feet from the ground. All of these nests contained young birds, and two was the number in each nest. Two taken from the last nest mentioned were probably about three weeks old, and still in the down which was of a dirty cream color, except on the head where the pattern of the dark cap, characteristic of adult birds, was clearly marked by a dark brown down. The wings and back were also darker than the other parts of the bird.

The eggs are laid late in February or early in March, and Capt. Menge tells me that two is the full complement.

Strix pratincola.—A rather rare resident, but of regular occurrence. Capt. Menge found a pair breeding on the hull of an abandoned dredge that had belonged to the company engaged in draining and reclaiming land in the vicinity of Lake Okeechobee, and he tells me the birds are not uncommon in large cypress swamps on the northeast side of the lake.

Megascops asio floridanus.—The number of eggs laid by this subspecies so far as I am aware does not exceed three, being in marked contrast to its northern representative. On April 11 I obtained a female and and three young perhaps three days old. The nest was in a deserted Woodpecker's hole in a dead palmetto. On April 13 I took a female, with three eggs almost ready to hatch. The nest was in a location similar to that found on the 11th. In this part of Florida my experience goes to show that the majority of individuals are in the red phase of plumage.

Speotyto cunicularia floridana. - Found commonly on the prairies back of the hammock on the north side of the river, opposite to Fort Thompson. This prairie is known as the 'big prairie,' and reaches from the north bank of the Caloosahatchie to Fort Ogden, and varies in width from twenty to thirty miles, being upwards of fifty miles in extent north and south. It is almost a level plain, there being but little difference, possibly four or five feet, in its elevation at different points. Here and there are ponds and sloughs, from one to fifteen acres in extent. These were all dry at the time of my visit, the week between April 8 and 16. The sloughs sometimes run for many miles and are generally from a hundred feet to a hundred yards wide. There was no water in any of these sloughs at the time I visited this region. The water in these ponds and sloughs during the rainy season varies in depth from a few inches to four or five feet. Back from ponds and sloughs the ground rises gradually till an elevation of perhaps three feet is attained, and there is a sparse growth of scrubby saw palmetto, a kind of huckleberry, and some coarse grasses. This is the general character of the growth on the prairie. At varying distances this arid flat expanse is broken by what correspond to the 'bay heads' and cypress swamps of the pine forests already spoken of. The smaller 'islands,' one to five acres in extent, here generally consist of a growth of cabbage palmetto, and some small oaks. The larger islands, some of which are a couple of miles in length, but rarely more than a few hundred yards wide, have in addition the regular yellow pine forest with a dense undergrowth of thick saw palmetto. Occasionally these include a 'bay head' or a small cypress swamp.

The prairie, however, aside from these breaks in its monotony, reminds one strongly in general character of the arid regions of the south-western portion of the United States, except, of course for the difference in vegetation.

The Burrowing Owls can hardly be termed gregarious at the points where I found them. The nearest burrows were at least two hundred yards apart, and often five hundred. In a square mile there might be three or four pairs scattered about in this way, and then several miles would generally be traversed before another region inhabited by the birds occurred. The highest parts of the open prairie, away from the wooded 'islands,' the sloughs and ponds, seemed to be the places chosen by the birds for their burrows. I found none nearer than a quarter of a mile to any pond or slough.

The birds were breeding, and I found young about a week old on the 13th of April, and the dozen or more sets of eggs obtained varied from being fresh to being about ready to hatch. This is probably the normal breeding season, as these birds had not been disturbed by any one before. Only one set of young was found out of the twenty-five burrows examined. There were five fledglings in this family.

The burrows were generally about eight feet in length, always bent and twisted in their course, but rarely more than eighteen inches, or at the most two feet, below the surface. The situation of a burrow was always high, dry ground, and where there was some considerable growth of a kind of huckleberry. I can make no generalization as to the course or trend of these burrows from the data gathered in excavating them. No point of the compass seemed to be preferred, and while all of them turned from the course originally started, some bent much more than others. One burrow started in a course that formed an almost complete circle, so that the nest in which it terminated was close to and just to one side of the entrance. At the mouth of the burrow was a mound of sand very like that at the mouth of the hole of the prairie dog of the Plains. Seven was the highest number of eggs found in a set, six were found in several instances, but five seems to be the average number. Judging from abandoned burrows, they are used but a single season, and the birds undoubtedly excavate them themselves. Though the sloughs cut in places considerable gullies, with banks of sand more or less abrupt, I found no burrows in such situations, nor on the edges of or near to the 'cabbage There was little attempt at nest-making in the chamber in which the burrow terminated, but generally much trash, dry grass, and cow dung, was found just in the mouth of the burrow, and some of this material was frequently found in the nesting chamber.

The male bird sat at the mouth of the burrow on most occasions, the mate usually joining him on his becoming alarmed. In four cases the

female was found upon excavating the burrow, and taken alive. Some pairs of the birds were very unsuspicious, and others again exceedingly wild and systematically shy. In many cases the birds had two burrows, always close together, but one would be quite short, and apparently used but little, probably by the male bird as a roosting place, for I believe these birds to be strictly diurnal, doing most of their hunting, however, in the early morning and evening.

The series of birds of this species obtained at this point, during the week spent there, numbers fifty-three, forty-eight adults and five young birds in the down.

Conurus carolinensis.—This can only be considered a nomadic visitor in this part of Florida. They appear, generally in the fall on the upper waters of the river, in small parties, feeding on the cypress mast. But, from the reliable information furnished by Capt. Menge and others, it appears that they are still common residents, and that they breed in the cypress swamps on the northeast side of Lake Okeechobee.

Campephilus principalis.—This species, though not common, is not very rare in this region. I obtained six individuals and saw and heard about as many more. They breed here early in February

Ceophlœus pileatus.— During early April I found two nests of this species, each containing four fresh eggs. The first, on April 9, was in a dead cabbage palmetto, forty-five feet from the ground, and these eggs were unfortunately broken in being taken from the nest. The second set was taken on April 12, from a nest in a dead pine tree, and the entrance to this nest was but fifteen feet from the ground.

Antrostomus vociferus.—Winters regularly in the vicinity of Fort Myers. During December and January I took two and saw and heard others.

Myiarchus crinitus.—Winters regularly in the vicinity of Fort Myers and Punta Rassa. Several specimens were secured during December, January, and February.

PITTA GRANATINA TEMMINCK ET AUCTORES.

BY D. G. ELLIOT.

My ATTENTION has lately been called again to the question of the specific difference of the Pittas with black foreheads and crimson napes from Borneo, on the one hand, and from Sumatra and the Malay Peninsula, etc., on the other. I have always con-